

Food and **D**rug **R**esearch **L**aboratories
I N C O R P O R A T E D

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March 16, 1960

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Mr. J. C. Holmes
Philip Morris, Inc.
McComas Research Center
P. O. Box 3 D
Richmond 6, Virginia

Dear Joe:

In answer to your letter of March 9th, we will look forward to receiving samples of cigarettes for aluminum analysis of smoke as soon as you have them ready.

Meanwhile, you have asked us to comment on the possible significance to the smoker of minute traces of Bentonite inhaled with the smoke of cigarettes made from "BL" containing the mineral. Strictly speaking, of course, this raises the question of silica since Bentonite is an aluminum magnesium silicate. Silaceous substances absorbed by the lung are trapped in the proximal lymph nodes where they set up a marked foreign body reaction due, in the opinion of some authorities, to the acid character of silicic acid. This condition is often referred to as "silicosis." It is a common disease among workers in certain mines where silica dust is prevalent.

Actually, the literature appears to offer little information on the minimum level of exposure to silicates which may cause clinical symptoms of silicosis. At least, a much more detailed search would have to be made. However, it seems clear from our investigation to date that the process is cumulative since silica-bearing particles once trapped remain in the nodes for the life-time of the individual.

Another point requiring further study is the differences between various silaceous materials in their ability to induce the disease. Many qualitative differences have been reported and we have no information on the history of silicosis being produced by the Bentonites.

From a practical standpoint, we rather doubt that the few micrograms inhaled with the smoke from each cigarette would deposit sufficient silica as Bentonite in the lungs of the smoker to be significant in comparison with the relatively enormous amounts constantly being inhaled from the polluted atmosphere in which we live. Almost all dusts have more or less silica content.

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We suggest that you consider these comments as preliminary to a more careful evaluation which should be postponed until after your own exploratory work is completed and until after we have the results of the aluminum analyses on the smoke which we will conduct. If the levels are found to be significant, we can institute a thorough literature search on the subject.

Cordially yours,

FOOD and DRUG RESEARCH LABORATORIES, Inc.

Assistant Director

Dr. Kenneth Morgareidge:rfm

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